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**Chairman**  
**Committee on Science**  
**Subcommittee on Energy**  
***Economic Aspects of Nuclear Fuel Reprocessing***  
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I want to welcome everyone to this hearing on what impact reprocessing and recycling might have on the economics of the nuclear fuel cycle should we, as a nation, choose to use these technologies to better manage our growing inventory of spent nuclear fuel.

This is the Energy Subcommittee's second hearing on the topic of reprocessing and recycling of nuclear waste. Our first hearing, which occurred less than a month ago, focused on technology decisions and proliferation issues. At that hearing, we heard about reprocessing technologies in various stages of development, and how these advanced technologies are more proliferation-resistant than the 30-year old technologies currently used throughout the world.

Today we are going to hear from a representative of the nuclear utility industry and from a number of renowned economists and scientists on the economics of the nuclear fuel cycle. In particular, we are going to discuss what additional costs or savings might result if we switch from an open fuel cycle to an advanced fuel cycle, and how those costs and savings compare with other sources of energy, especially fossil fuels.

There are many reasons why the United States should embrace an advanced fuel cycle that uses reprocessing, recycling, and transmutation – or the burning of the most radioactive parts of spent fuel – as a way to deal with our nuclear waste problem.

First, if we were to recycle what we call nuclear “waste,” which is actually nuclear “fuel,” we could increase the amount of energy obtained from uranium resources by a factor of 10.

Second, by the time Yucca Mountain opens, it technically will be filled to capacity with all the waste generated up to 2010, requiring a second repository or an expanded Yucca Mountain for future waste.

Third, the advanced fuel cycle promises to reduce the volume of our high-level nuclear waste, potentially by a factor of 60.

Fourth, it also could reduce the toxicity – the heat and the radioactivity – of the waste so that it would only have to be stored for 300 years, rather than 10,000.

And last, the advanced fuel cycle could render another Yucca Mountain unnecessary even if the nuclear power industry grows.

Why didn't I include economics as one of the reasons the U.S. should embrace the advanced fuel cycle? Because as long as uranium is cheap and abundant, mining and enriching it will continue to cost less than reprocessing and recycling spent fuel.

But let's face it, the federal government does a lot that isn't economical – often because doing so is in the best interest of the nation for other reasons. For instance, federal tax credits make renewable energy economical. As a result of our growing use of wind and solar power, our energy supplies are more diverse and our nation is more energy independent and secure.

And the economics could change. Concerns about global climate change and clean air may in the future make it more expensive to produce electricity using fossil fuels. If or when this happens, nuclear energy becomes much more economical. Current analyses of the competitiveness of nuclear power don't account for the billions we will have to spend to address greenhouse gas emissions from fossil fuels and global climate change.

While economics alone should not dictate a decision to close the fuel cycle, it is still extremely important that we, as lawmakers, understand the relationship between costs and benefits in order to make informed decisions about managing the growing stockpile of spent nuclear fuel. Understanding the economics of the advanced fuel cycle will allow us to prioritize research and development to greatly reduce costs and significantly improve the economic feasibility of closing the fuel cycle. Besides continued R and D, costs can be reduced based on lessons learned from international programs and a well-reasoned, integrated plan. In this way, we can help the Department of Energy, energy producers, and other interested parties develop the best policies and plans possible to deal with growing quantities of spent nuclear fuel.

Once we understand what the costs are, a decision will have to be made about who most appropriately should assume those costs. Under the Nuclear Waste Policy Act, consumers already pay one-tenth of one cent per kilowatt-hour for the federal government to take possession and dispose of the nation's spent nuclear fuel. Until or unless the law changes, the responsibility falls to us to use this money wisely, and to explore ways to reduce the volume and toxicity of spent nuclear fuel and maximize the capacity of Yucca Mountain.

As someone who supports nuclear power, and whose home state derives 50 percent of its electricity from emissions-free nuclear power, I would hate to see the industry's future growth constrained when Yucca Mountain is full and no plan has been developed to manage the waste from new nuclear power plants.

That's why we are here today – to make sure we have the right plan for managing our growing inventory of spent nuclear fuel in the most efficient, economical, and environmentally-sensitive way possible. I want to thank the witnesses for being here to enlighten us today. I look forward to their testimony. But before we get to that, I will yield to the Ranking Member, Mr. Honda, for his opening statement.